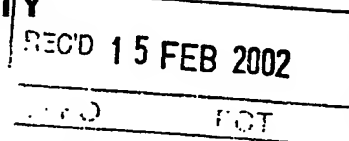


PATENT COOPERATION TREATY

PCT



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference F 1216 PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/23704	International filing date (<i>day/month/year</i>) 29/08/2000	Priority date (<i>day/month/year</i>) 13/09/1999
International Patent Classification (IPC) or national classification and IPC H01J9/24		
Applicant 3M INNOVATIVE PROPERTIES COMPANY et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 06/03/2001	Date of completion of this report 13.02.2002
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer de la Cal Heusch, E Telephone No. +49 89 2399 2008 <div style="text-align: right;"> </div>

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/23704

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-17 as originally filed

Claims, No.:

1-10 as originally filed

Drawings, sheets:

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

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☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims 1-7 and 9-10
	No: Claims 8
Inventive step (IS)	Yes: Claims 1-7
	No: Claims 8-10
Industrial applicability (IA)	Yes: Claims 1-10
	No: Claims

2. Citations and explanations
see separate sheet

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Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- D1: WO 99/10909 A and corresponding EP 0 935 275 A1
- D2: EP 0 196 033 A2 (copy attached)
- D3: WO 00 58990 A (YOKOYAMA CHIKAFUMI ;MINNESOTA MINING & MFG (US)). Publication date :5 October 2000; filing date 16 February 2000; priority date: 25 March 1999.

1. The methods defined in claims 1-7 of the present application can be considered as novel and inventive (Article 33(2) and (3) PCT) for the following reasons:
Using a rib precursor in a method for producing a substrate for plasma display panels comprising two types of photosetting initiators with different absorption edges to selectively synthesise the ribs of the substrate is neither disclosed nor even suggested in any prior art documents.

Although claim 2 is inventive since it depends on claim 1, the final part, "*thereby setting the rib precursor composition*", is not clear for the following reasons:

- From the description (p. 11, l. 20-31) it is clear that the selective radiation and therefore its effect only affects the peripheral region, which certainly is one of the characterising features of claim 2. However the wording "*setting the rib precursor*" seems to indicate that the whole rib precursor is affected. The term "*rib precursor*" is defined in claim 1, to which claim 2 refers, as the material which fills the whole mold, i.e. the peripheral and the central region.

Adding the term "*in the peripheral region*" at the end of the claim would overcome this unclarity.

- The consequence of irradiating the peripheral region is that "*...the rib molded article is adhered to the mold by the photosetting reaction between the second setting component in the mold and the first setting component in the rib precursor*

composition and thus the rib molded article at the peripheral region of the back plate is removed together with the mold." (p. 11, l. 26-30). The phrase "*setting the rib precursor*" used in the claim is unclear, because it does not reflect the characteristic effect that the rib precursor in the peripheral region is adhered to the mold so that it is removed when removing the mold. The term "*setting*" (not used in the description) does not describe this feature, since the rib precursor could be "*set*" without being adhered to the mold. In addition not only the rib precursor will be "*set*" when irradiating with light with a wavelength shorter than that corresponding to the second absorption edge, but also the mold (see claim 1). This unclarity can be overcome by specifying the effect of adhering of the rib precursor to the mold at the peripheral region.

2. The subject-matter of claim 8 does not meet the requirements of the PCT in respect of novelty and/or inventive step, the reasons being as follows:

A lack of clarity arises in claim 8 because the claim does not define its subject-matter only in terms of technical features of the mould as such. On the contrary, features which depend on the particular use of this mould are used for the definition of the mould. For example, the feature 'photo-setting initiator having an absorption edge whose wavelength is shorter than a wavelength corresponding to said first absorption edge of said first photo-setting initiator' is not a clear and distinguishing feature of the mould; instead, it depends on the material to be filled into the recesses of the mould.

The intended limitations for the mould are therefore not clear from claim 8 (Article 6 PCT). The mould as such must not be defined by features which depend on the particular use of this mould. In order to assess novelty and inventive step of claim 8, features such as 'photo-setting initiator having an absorption edge whose wavelength is shorter than a wavelength corresponding to said first absorption edge of said first photo-setting initiator' are therefore neglected.

Consequently, the mould according to claim 8 is only defined by being a mould for fabricating a plasma display panel comprising a base and a rib, which mould is obtained by photo-setting a photo-setting component in the presence of a photo-

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setting initiator.

However, such a mould is not novel (see e.g. p. 5, l. 31-34 of D1) or at least strongly suggested for the following reasons:

A mould formed of silicone for fabricating a plasma display panel comprising a base and a rib is known from D1 (see Example 9 of D1).

A person skilled in the art of mould fabrication knows various mould fabrication processes including the photo fabrication of master relief patterns as disclosed in D2 (see Figs. 3-7 and related text of D2). The material used for forming this master comprises a photo-setting component and a photo-setting initiator (see p. 10, l. 5 to p. 12, l. 7 and p. 15, l. 1 to p. 17, l. 4 of D2). Therefore, a skilled person knowing the documents D1 and D2 would arrive at the mould as defined in claim 8 without the exercise of inventive skill.

3. Dependent claims 9 and 10 do not contain any features which, in combination with the features of claim 8 to which they refer, meet the requirements of the PCT in respect of inventive step (see e.g. p. 4, l. 14-34 of D2).
4. The subject-matter of claims 1 and 3-10 is disclosed in D3 (see claims 1-8 in D3). D3 is an earlier WO application published after the present filing date.